

**What is claimed is:**

1. A process for electroplating a conductive metal layer onto the surface of a non-conductive material comprising the steps of:
  - 5 a. contacting said non-conductive surface with a liquid carbon black dispersion comprising:
    - (i) carbon black particles;
    - (ii) carbon black particles having an oil absorption number of at least about 150 cm<sup>3</sup>/100g as a DBP absorption number.
    - 10 (iii) one or more dispersing agents;
    - (iv) an alkali metal hydroxide; and
    - (v) water;
  - b. separating substantially all of the water from the conventional and highly conductive carbon black particles, such that the conventional and highly  
15 conductive carbon black particles are deposited on the non-conductive surface in a substantially continuous layer; and thereafter
  - c. electroplating a conductive metal layer over the deposited carbon layer and said non-conductive surfaces.
- 20 2. The method according to claim 1, wherein the carbon black dispersion comprises about 1 to about 5 weight percent of total carbon black and about 0.1 to about 2 weight percent of carbon black having an oil absorption number of at least about 150 cm<sup>3</sup>/100g as a DBP absorption number.
- 25 3. The method according to claim 1, wherein said dispersing agent is selected from the group consisting of phosphate esters, alkaline sulfonates, organic sulfonates, ethoxylated alcohols and ethoxylated polymers based on maleic or stearic acid.
4. The method according to claim 1, wherein the pH of the carbon dispersion is about  
30 10-11.
5. A process for electroplating a conductive metal layer onto the surface of a non-conductive material comprising the steps of:

- a. contacting said non-conductive surface with a liquid carbon black dispersion comprising:
- (i) carbon black particles;
- (ii) carbon black particles selected from the group consisting of carbon black particles having a surface area of at least about 150 m<sup>2</sup>/g and carbon black particles having a volatiles content of less than 5% by weight.
- (iii) one or more dispersing agents;
- (iv) an alkali metal hydroxide; and
- (v) water
- b. separating substantially all of the water from the conventional and highly conductive carbon black particles, such that the conventional and highly conductive carbon black particles are deposited on the non-conductive surface in a substantially continuous layer; and thereafter
- c. electroplating a conductive metal layer over the deposited carbon layer and said non-conductive surfaces.
6. A method according to claim 5, wherein the carbon black dispersion comprises about 1 to 5 weight percent total carbon black and about 0.1 to 2 weight percent carbon black having a surface area of at least about 150 m<sup>2</sup>/g or carbon black having a volatiles content of less than 5% by weight.
7. A composition useful in electroplating a conductive metal layer onto the surface of a non-conductive material, said composition comprising:
- a. carbon black particles;
- b. carbon black particles selected from the group consisting of carbon black articles having an oil absorption number of at least about 150 cm<sup>3</sup>/100 g, carbon black particles having a surface area of at least about 150 m<sup>2</sup>/g and carbon black particles having a volatiles content of less than 5% by weight;
- c. one or more dispersing agents;
- d. an alkali metal hydroxide; and
- e. water.

8. A composition according to claim 7 wherein the composition comprises carbon black particles having an oil absorption number of at least about  $150 \text{ cm}^3/100\text{g}$ .
- 5 9. A composition according to claim 7, wherein the composition comprises about 1 to 5 weight percent total carbon black and about 0.1 to 2 weight percent of carbon black having a surface area of at least about  $150 \text{ m}^2/\text{g}$ .
- 10 10. A composition according to claim 8 wherein the composition comprises about 1 to 5 weight percent total carbon black and about 0.1 to 2 weight percent of carbon black having an oil absorption number of at least about  $150 \text{ cm}^3/100\text{g}$ .
11. A composition according to claim 7 wherein the composition comprises about 1 to 5 weight percent carbon black and about 0.1 to 2 weight percent of carbon black having a volatiles content of less than 5% by weight.

15